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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/812,242  | 03/29/2004  | Chad Thomas Steward  | 55123P298           | 2207             |
| 8791  | 7590        | 06/10/2005           |                     | EXAMINER         |
| BLAKELY SOKOLOFF TAYLOR & ZAFMAN<br>12400 WILSHIRE BOULEVARD<br>SEVENTH FLOOR<br>LOS ANGELES, CA 90025-1030 |             |                      | YOUNG, BRIAN K      |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2819                |                  |

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 10/812,242             | STEWARD ET AL.      |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | Brian Young            | 2819                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 28 March 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-7,9-15 and 17-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4,6,7,9-12,14,15,17-20 and 22-25 is/are rejected.
- 7) Claim(s) 5,13,21 and 26 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 March 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-4,6,7,9-11,12,14,15,17,18,19,20,22-25 are rejected under 35

U.S.C. 102(a) as being anticipated by applicants admitted prior art.

Regarding claims 1,12,20 and 22 applicant's admitted prior ad teaches (fig.1) a successive approximation analog-to-digital converter comprising an analog sample and hold circuit (ANALOG INPUT SAMPLE AND HOLD); a switched capacitor DAC having an input coupled to an output of the sample and hold circuit (SWITCHED CAPACITOR DAC); comparator having an input coupled to an output of the switched capacitor DAC (COMPARATOR); a plurality of set-reset latches, each set-reset latch being responsive to a combination of control signals and the output of the comparator and providing non-overlapping switch driver signals as set-reset latch outputs (SAR and NON-OVERLAPPING SWITCH DRIVERS) the switch driver signals being coupled to control the switched capacitor DAC.

In regards to claims 2-4,6,7,9-11,14,15,17-19, and 23-25 figure 1 teaches that the switched capacitor DAC is a differential switched capacitor controlled by a state machine (STATE MACHINE). Also that the set-reset latches have switch driver signal outputs that are level shifted and the output comparison to the combination of control signals the comparator, and that the set-reset latches are NOR and NAND gate based latches.

Page 1 of the specification recites "a traditional successive approximation (SAR) analog-to-digital converter (ADC) shown schematically shown in Figure 1 uses a differential switched capacitor DAC coupled to a comparator having an output coupled to a successive approximation register controlling non-overlapping switch drivers coupled to the switched capacitor DAC. An analog input sample-and-hold is provided, which may be the overall SAR ADC switched capacitor DAC itself, with the being controlled by some form controller such as the state machine shown. In a switched capacitor DAC, the capacitor values may be in a binary sequence (radix with one terminal of all capacitors connected to the DAC output. (Reduced radix and mixed radix DACS are also known."

3. Applicant's arguments filed 3/28/05 have been fully considered but they are not persuasive. Applicant recites, "examiner states that each reset latch is responsive to a combination of control signals in the output of the comparator, and providing non-overlapping switch driver signals as set-reset latch outputs. This is not correct. Figure 1 clearly shows the successive approximation register having latches separate and apart from the non-overlapping switch driver. In that regard, the Examiner appears to be attempting to lump the successive approximation registers and non-overlapping switch drivers as a single element. However, this clearly is not what Figure 1 shows. " While it is apparent figure 1 "shows" the elements (SAR and switch drivers) drawn as separate elements, merely drawing or labeling the two elements, as one (fig.4) does not provide a distinction over the prior art.

The SAR and switch driving functions are still performed. The term "non-overlapping" is not defined in the claims to provide the necessary distinction between the prior art and the claims.

4. Claims 5,13,21, and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

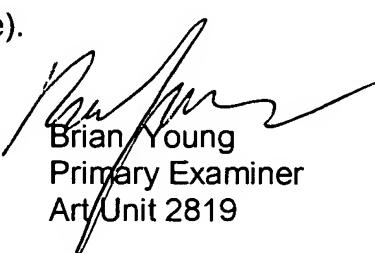
5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Young whose telephone number is 571-272-1816. The examiner can normally be reached on Mon-Fri 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Brian Young  
Primary Examiner  
Art Unit 2819

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